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17. (twice amended) The process in accordance with claim 16 wherein the olefin(s) are ethylene in combination with one or more other alpha-olefin(s) [comonomer contains] having from 3 to 10 carbon atoms.

21. (five times amended) A continuous gas phase process for polymerizing [ethylene and one or more alpha-]olefin(s) excluding cyclic olefin(s) [comonomer] in a fluidized bed gas phase reactor in the presence of a catalyst system to produce a polymer product, the catalyst system comprising a ligand hafnium metallocene catalyst compound having at least one ligand substituted with at least one linear or iso alkyl group having from 3 to 10 carbon atoms, and the polymer product comprising less than 2 ppm hafnium.

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26. (twice amended) The process in accordance with claim 21 wherein the olefin(s) are ethylene and at least one [or more] alpha-olefin(s] [comonomer] having [contains] 3 to 8 carbon atoms.

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28. (five times amended) A continuous slurry phase process for polymerizing [ethylene and one or more alpha-]olefin(s) excluding cyclic olefins [comonomer] in the presence of a catalyst system to produce a polymer product in a liquid polymerization medium, the catalyst system comprising a hafnium metallocene catalyst compound having at least one ligand substituted with at least one linear or iso alkyl group having from 3 to 10 carbon atoms, and the polymer product comprising less than 2 ppm hafnium.

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31. (twice amended) The process in accordance with claim 26 wherein the olefins are ethylene and at least one [or more] alpha-olefin(s) [comonomer] having [contains] 3 to 8 carbon atoms.

32. (once amended) The process in accordance with claim 28 wherein the catalyst system is represented by the formula:

$$(C_5H_{5-n}R''_d)_nR'''dHfO_x$$

wherein  $(C_5H_{5-6}R'')_d$  is an unsubstituted or substituted cyclopentadienyl ligand bonded to Hf, wherein at least one  $(C_5H_{5-6}R'')_d$  is substituted with at least one  $R''$  which is [an alkyl substituent having 3 or more] a linear or iso alkyl group having from 3 to 10 carbon atoms, each additional  $R''$ , which can be the same or different is hydrogen or a substituted or unsubstituted hydrocarbyl having from 1 to 30 carbon atoms or combinations thereof or two or more carbon atoms are joined together to form a part of a substituted or unsubstituted ring or ring system having 4 to 30 carbon atoms,  $R'''$  is one or more or a combination of the group consisting of carbon, germanium, silicon,

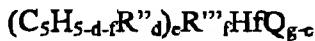
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phosphorous and nitrogen atoms containing radical bridging two ( $C_5H_{5-6-f}R''_d$ ) rings, or bridging one ( $C_5H_{5-6-f}R''_d$ ) ring to Hf; each Q which can be the same or different is selected from the group consisting of hydride, substituted and unsubstituted hydrocarbyl having from 1 to 30 carbon atoms, halogen, alkoxides, aryloxides, amides, phosphides and combination thereof; two Q's together form an alkylidene ligand or cyclometallated hydrocarbyl ligand or other divalent anionic chelating ligand; where g is an integer corresponding to the formal oxidation state of Hf, d is 0, 1, 2, 3, 4, or 5, f is 0 or 1 and e is 1, 2, or 3, and the polymer product has a melt index less than 0.1 dg/min (ASTM D-1238-F or ASTM D-1238-E) without the addition of hydrogen to the process.

*13* 52. (three times amended) A process for polymerizing [ethylene and one or more alpha-]olefin(s) excluding cyclic olefin(s) [comonomer] in the presence of a catalyst system comprising a hafnium transition metal metallocene catalyst having at least one cyclopentadienyl ring substituted with at least one alkyl group selected from group consisting of n-propyl, isopropyl, isobutyl and n-pentyl, and an activator.

*53* 53. (twice amended) A continuous gas phase process for polymerizing [ethylene and one or more alpha-]olefin(s) excluding cyclic olefins [comonomer] in a fluidized bed gas phase reactor in the presence of a catalyst system to produce a polymer product, the catalyst system comprising a bulky ligand hafnium transition metal metallocene catalyst represented by the formula:



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wherein  $(C_5H_{5-6-f}R''_d)$  is an unsubstituted or substituted cyclopentadienyl ligand bonded to Hf, wherein at least one  $(C_5H_{5-6-f}R''_d)$  is substituted with at least one R'' which is an alkyl group selected from the group consisting of n-propyl, isopropyl, isobutyl and n-pentyl, each additional R'', which can be the same or different is hydrogen or a substituted or unsubstituted hydrocarbyl having from 1 to 30 carbon atoms or combinations thereof or two or more carbon atoms are joined together to form a part of a substituted or unsubstituted ring or ring system having 4 to 30 carbon atoms, R'' is one or more or a combination of the group consisting of carbon, germanium, silicon, phosphorous and nitrogen atoms containing radical bridging two ( $C_5H_{5-6-f}R''_d$ ) rings, or bridging one ( $C_5H_{5-6-f}R''_d$ ) ring to Hf; each Q which can be the same or different is selected from the group consisting of hydride, substituted and unsubstituted hydrocarbyl having from 1 to 30 carbon atoms, halogen, alkoxides, aryloxides, amides, phosphides and combination thereof; two Q's together form an alkylidene ligand or cyclometallated hydrocarbyl ligand or other divalent anionic chelating ligand; where g is an integer corresponding to the formal oxidation state of Hf, d is 0, 1, 2, 3, 4, or 5, f is 0 or 1 and e is 1, 2, or 3, and the polymer product has a melt index less than 10 dg/min (ASTM D-1238-F or ASTM D-1238-E) without the addition of hydrogen to the process.

**REMARKS**